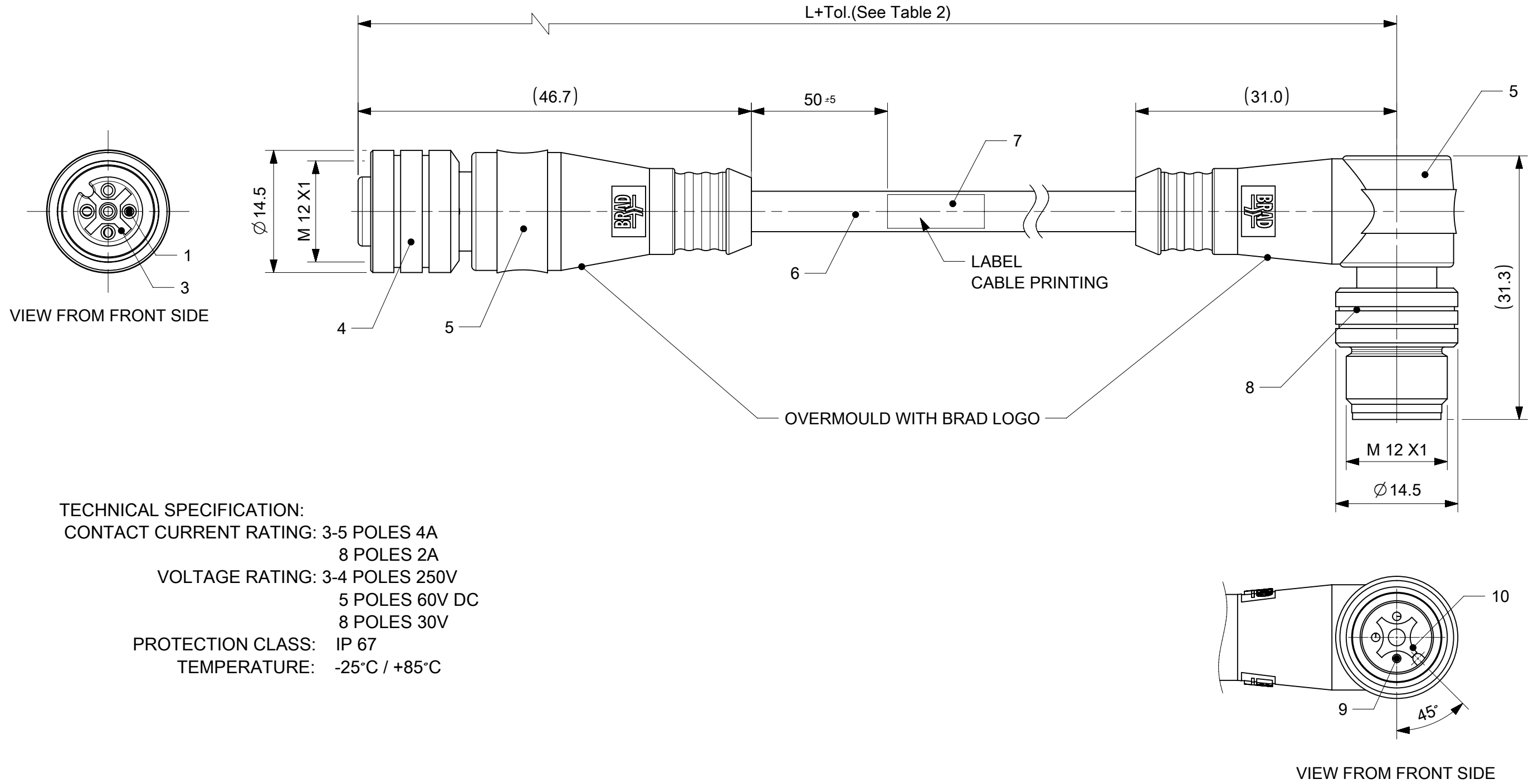


# FEMALE PLUG M12 STRAIGHT TO MALE PLUG M12 90° ANGLED



## TECHNICAL SPECIFICATION:

CONTACT CURRENT RATING: 3-5 POLES 4A  
 8 POLES 2A  
 VOLTAGE RATING: 3-4 POLES 250V  
 5 POLES 60V DC  
 8 POLES 30V  
 PROTECTION CLASS: IP 67  
 TEMPERATURE: -25°C / +85°C

## B BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	MATERIAL	FINISH/COLOR
10	1	INSERT MALE	PUR	BLACK
9	3	CONTACT M12 MALE	BRASS	SELECTIVE GOLD OVER NICKEL
8	1	COUPLING NUT MALE	BRASS	NICKEL
7	1	LABEL	VINYL	YELLOW
6	-	CABLE	SEE MATRIX/ CABLE SPECIFICATION	---
5	1	OVERMOULD	TPU	SEE MATRIX
4	1	COUPLING NUT FEMALE	BRASS	NICKEL
3	1	INSERT FEMALE	PUR	BLACK
2	1	O-RING	FPM	RED
1	3	CONTACT M12 FEMALE	BRASS	SELECTIVE GOLD OVER NICKEL
ITEM	QTY.	DESCRIPTION	MATERIAL	FINISH/COLOR

DOCUMENT STATUS | P1 | RELEASE DATE | 2019/01/09 07:49:11

SYMBOLS	DIMENSION UNITS	SCALE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				
▽ = 0	mm	2:1	CURRENT REV DESC: DIM PLACEMNT UPDATED				
▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED)		<b>molex</b> CSE M12 XP AC FE STR MA RA XM PRODUCT CUSTOMER DRAWING				
▽ = 0	ANGULAR TOL ± 1.0°						
▽ = 0	4 PLACES ±	EC NO: 610022				2019/01/07	
▽ = 0	3 PLACES ±	DRWN: SSM				2019/01/09	
▽ = 0	2 PLACES ± 0.05	CHK'D: RSILLER				2019/01/09	
▽ = 0	1 PLACE ± 0.3	APPR: RSILLER	INITIAL REVISION:				
▽ = 0	0 PLACES ± 0.5		DRWN: DSOPPIN	2018/09/27	DOCUMENT NUMBER		
☒ = 0	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		APPR: RSILLER	2018/10/22	1200070026		
▽ = 0	THIRD ANGLE PROJECTION		DRAWING	SERIES	MATERIAL NUMBER		
	A3-SIZE		120007	SEE PART LIST	CUSTOMER		
			GENERAL MARKET	SHEET NUMBER	1 OF 3		

ENGINEERING NO. - NUMERICAL CODE (Available parts see PART LIST table. Others on request).

8 8 X 0 3 2 X X X X X X X X X X X X

SPECIAL TYPES

COUPLING NUT FEMALE MALE

88 = M12x1 Double ended

Poles:  
3 = 3 Poles  
4 = 4 Poles  
5 = 5 Poles

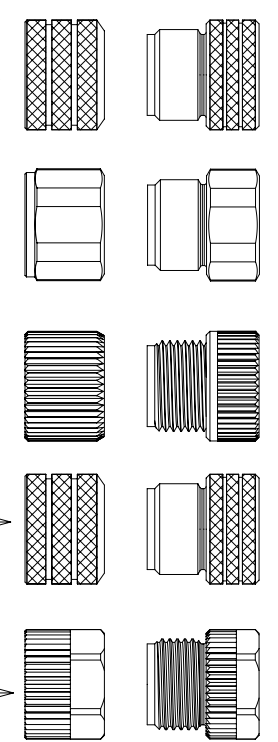
Heads style:  
032 = Plugs FE Straight & Male 90°

Cable types:  
E02=0.25mm<sup>2</sup> PVC Black  
E03=0.34mm<sup>2</sup> PVC Black  
E13=0.75mm<sup>2</sup> PVC Yellow  
E52=0.34mm<sup>2</sup> PVC Grey(RAL 7001)  
E57=0.34mm<sup>2</sup> PVC Grey(RAL 7001)  
H09=0.34mm<sup>2</sup> PUR Black  
H69=0.34mm<sup>2</sup> PUR Grey LSOH SCR  
I02=0.25mm<sup>2</sup> PVC Grey CEI  
I03=0.34mm<sup>2</sup> PVC Grey CEI  
I20=0.25mm<sup>2</sup> PVC Grey CEI SCR DC  
I26=0.34mm<sup>2</sup> PVC Grey CEI SCR AC  
P02=0.25mm<sup>2</sup> PUR/PVC Black  
P03=0.34mm<sup>2</sup> PUR/PVC Black  
P08=0.25mm<sup>2</sup> PUR Yellow HIFLEX  
P20=0.34mm<sup>2</sup> PUR Grey LSOH braid  
P82=0.34mm<sup>2</sup> PUR orange irradiated DC  
S20=0.34mm<sup>2</sup> PVC Yellow SJTO braid

Units:  
C = Centimeter  
M = Meter  
K = Kilometer  
F = Feet

Length Examples:  
020 = 2 M  
060 = 6 M  
100 = 10 M

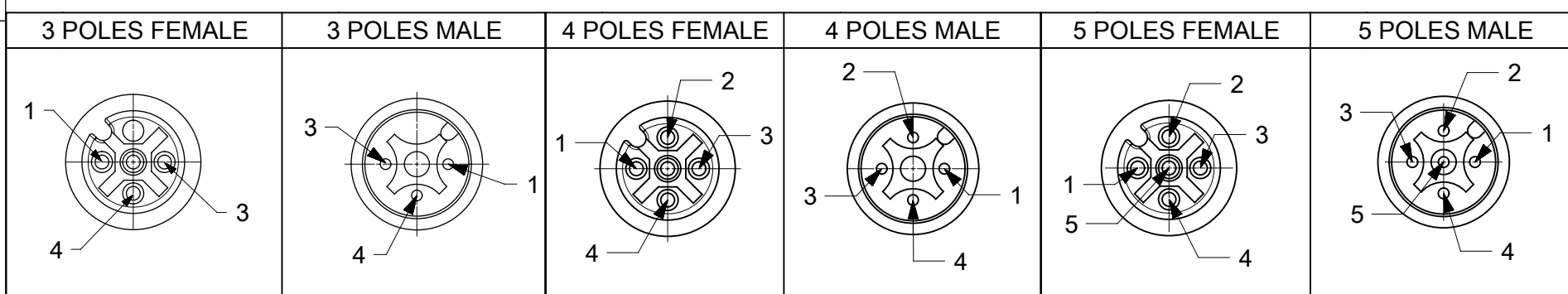
Overmold color:  
Blank (Standard)=Black TPU  
Blank=Yellow PVC for cables  
A09, S19, S20, S26  
Blank=Yellow TPE-E for cables  
K03, K05  
A=Grey / G=Black / Y=Yellow  
Coupling Nut:  
Blank (Standard)=Knurled Brass Ni Plated  
1=Hexagonal Stainless steel  
5=Knurled Derlin  
7=Knurled Brass Ni Plated, Teflon Coated  
Blank=7 for cables I20, I26, K03, K05, P82, S26  
9=Knurled / Hexagonal Brass Ni Plated SW13  
  
H= 2 pcs. of I/D Carrier PVC Transparent  
(Cables Ixx & P82 always with 2 pcs. of I/D Carrier even if no H in Engineering No.)



CABLE SPECIFICATION

CABLE TYPE	NO. OF WIRES	CROSS SECTION	CABLE JACKET	UL	CSA	STATIC: TEMP. / BENDING RADIUS	DYNAMIC: TEMP. / BENDING RADIUS	DRAG CHAIN	SHIELD
E02	3 / 4 / 5 / 8	0.25mm <sup>2</sup>	PVC BLACK	UL 2464/1729	C22.2 I/II A/B 80°C/300V	-30°C to +80°C, 10xO.D.	-10°C to +80°C, 15xO.D.	-	-
E03	3 / 4 / 5	0.34mm <sup>2</sup>	PVC BLACK	UL 2464/1729	C22.2 I/II A/B 80°C/300V	-30°C to +80°C, 10xO.D.	-10°C to +80°C, 15xO.D.	-	-
E52	4	0.34mm <sup>2</sup>	PVC GRAY	-	-	- 30 to + 70°C	- 5 to + 70°C	-	-
H09	3 / 4 / 5	0.34mm <sup>2</sup>	PUR BLACK LSOH	UL 21198/10493	C22.2 I/II A/B 80°C/300V	-40°C to +80°C, 5xO.D.	-25°C to +80°C, 10xO.D.	2 000 000 cycles at 20°C, Temp. range +5°C to +60°C	-
H69	4	0.2mm <sup>2</sup>	PUR LSOH	-	-	-	-40°C to +80°C	-	-
P02	3 / 4 / 5 / 8	0.25mm <sup>2</sup>	PUR / PVC BLACK	-	-	-30°C to +80°C, 7xO.D.	-5°C to +80°C, 15xO.D.	-	-
P03	3 / 4 / 5	0.34mm <sup>2</sup>	PUR / PVC BLACK	-	-	-30°C to +80°C, >7xO.D.	-5°C to +80°C, >15xO.D.	-	-
P82	4	0.34mm <sup>2</sup>	PUR IRR ORANGE	-	-	-50°C to +105°C,	-50°C to +105°C,	-	-
I03	4	0.34mm <sup>2</sup>	PVC GRAY	-	-	-30°C to +70°C	-5°C to +70°C	-	-
K03	4	AWG18	TPE YELLOW	ITC E195601 OR PLTC	AWM I/II A/B FT4 LL54185	-	-40°C to +105°C	-	-
K05	4	0.34mm <sup>2</sup>	TPE YELLOW	ITC E195601 OR PLTC	AWM I/II A/B FT4 LL54185	-	-40°C to +105°C	-	-
S20	4	0.34mm <sup>2</sup>	PVC YELLOW	UL 2661/1731	C22.2 AWM II	-30°C to +105°C	-40°C to +105°C	-	-

CONTACT POSITION FRONT VIEW:



PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE
1	BROWN	1	BROWN	1	BROWN	1	BROWN	1	BROWN	1	BROWN	1	BROWN
2	-	2	-	2	WHITE	2	WHITE	2	WHITE	2	WHITE	2	WHITE
3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE
4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK
5	-	5	-	5	-	5	-	5	GREY OR GREEN/YELLOW	5	GREY OR GREEN/YELLOW	5	GREY OR GREEN/YELLOW

CODING REQUIRED TO IEC 61076-2-101

OVER	UPTO AND INCULDING	TOLERANCE
0	305	+19
305	915	+45
915	1830	+56
1830	3660	+89
3660	7320	+165
7320	14640	+317
14640	30500	+610
30500	>	+2% OF LENGTH

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SYMBOLS:  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$ ,  $\nabla = 0$

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CURRENT REV DESC: DIM PLACEMNT UPDATED

SCALE: mm 1:1

GENERAL TOLERANCES (UNLESS SPECIFIED): ANGULAR TOL ± 1.0°, 4 PLACES ±, 3 PLACES ±, 2 PLACES ± 0.05, 1 PLACE ± 0.3, 0 PLACES ± 0.5

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

THIRD ANGLE PROJECTION

DRAWING: A3-SIZE

SERIES: 120007

MATERIAL NUMBER: SEE PART LIST

CUSTOMER: GENERAL MARKET

SHEET NUMBER: 2 OF 3

EC NO: 610022  
DRWN: SSM 2019/01/07  
CHK'D: RSILLER 2019/01/09  
APPR: RSILLER 2019/01/09

INITIAL REVISION:  
DRWN: DSOPPIN 2018/09/27  
APPR: RSILLER 2018/10/22

DOCUMENT NUMBER: 1200070026

DOC TYPE: PSD

DOC PART: 000

REVISION: A1

**molex**

CSE M12 XP AC FE STR MA RA XM

PRODUCT CUSTOMER DRAWING

PART LIST

MOLEX PN	ENGINEERING PN	LENGTH (mm)
1200070158	883032E03M003	300
1200070159	883032E03M006	600
1200070160	883032E03M010	1000
1200070161	883032E03M020	2000
1200668205	883032E03M050	5000
1200072378	883032E03M060	6000
1200668053	883032E03M100	10000
1200668206	883032E03M150	15000
1200668268	883032E03M200	20000
1200072879	883032H09M010	1000
1200070166	883032I03M006	600
1200668007	883032I03M010	1000
1200668054	883032P03M005	500
1200070171	883032P03M006	600
1200070172	883032P03M010	1000
1200070173	883032P03M020	2000
1200070174	883032P03M030	3000
1200072294	883032P03M0305	3000
1200668341	883032P03M050	5000
1200668763	883032P03M0501	5000
1200072705	883032P03M060	6000
1200070184	883032S20M010	1000
1200070185	883032S20M020	2000
1200668663	884032E02M050	5000
1200668072	884032E03M006	600
1200668073	884032E03M010	1000
1200668755	884032E03M012	1200
1200668756	884032E03M014	1400
1200665032	884032E03M020	2000
1200071014	884032E03M030	3000
1200668074	884032E03M050	5000
1200072163	884032E03M0501	5000
1200668075	884032E03M100	10000
1200668200	884032E03M1001	10000
1200668307	884032E03M1005	10000
1200668309	884032E03M1205	12000
1200668173	884032E03M1501	15000
1200668223	884032E03M200	20000
1200668308	884032E03M2005	20000
1200071277	884032E52M010A	1000
1200070841	884032E52M020A	2000
1200668494	884032H09M010	1000
1200668290	884032H09M020	2000
1200668311	884032H69M010	1000
1200668076	884032H69M030	3000
1200668312	884032H69M050	5000
1200665040	884032H69M100	10000
1200072424	884032I03M003	300
1200668522	884032I03M020	2000
1200661012	884032K03M006	600
1200661013	884032K03M010	1000
1200661014	884032K03M020	2000
1200661015	884032K03M030	3000
1200661598	884032K03M036	3600

MOLEX PN	ENGINEERING PN	LENGTH (mm)
1200661017	884032K03M050	5000
1200661018	884032K03M060	6000
1200661021	884032K03M090	9000
1200661022	884032K03M100	10000
1200661023	884032K03M120	12000
1200661480	884032K03M200	20000
1200660398	884032K05M005	500
1200660400	884032K05M010	1000
1200660401	884032K05M015	1500
1200660402	884032K05M020	2000
1200660403	884032K05M030	3000
1200073045	884032K05M035	3500
1200660404	884032K05M040	4000
1200660405	884032K05M050	5000
1200660406	884032K05M060	6000
1200073042	884032K05M070	7000
1200661540	884032K05M080	8000
1200668345	884032P03M002G	200
1200072838	884032P03M003	300
1200071519	884032P03M006	600
1200071407	884032P03M010	1000
1200070547	884032P03M0105	1000
1200669261	884032P03M015	1500
1200070026	884032P03M020	2000
1200071520	884032P03M030	3000
1200070914	884032P03M050	5000
1200072213	884032P03M1005	10000
1200668077	884032P82M0037	300
1200668343	884032P82M0067	600
1200668267	884032P82M0107	1000
1200668282	884032P82M0157	1500
1200668078	884032P82M0207	2000
1200668177	884032S20M020	2000
1200668161	884032S20M030	3000
1200070907	884032S20M050	5000
1200668974	885032E03M003	300
1200668979	885032E03M006	600
1200071271	885032E03M010	1000
1200668092	885032E03M020	2000
1200668975	885032E03M025	2500
1200668976	885032E03M030	3000
1200668977	885032E03M050	5000
1200668978	885032E03M100	10000
1200668493	885032H09M010	1000
1200072577	885032P03M003	300
1200668603	885032P03M020G	2000
1200668093	885032P03M030	3000
1200661925	885032P03M080	8000
1200661926	885032P03M100	10000
1200669119	885032P03M190	19000

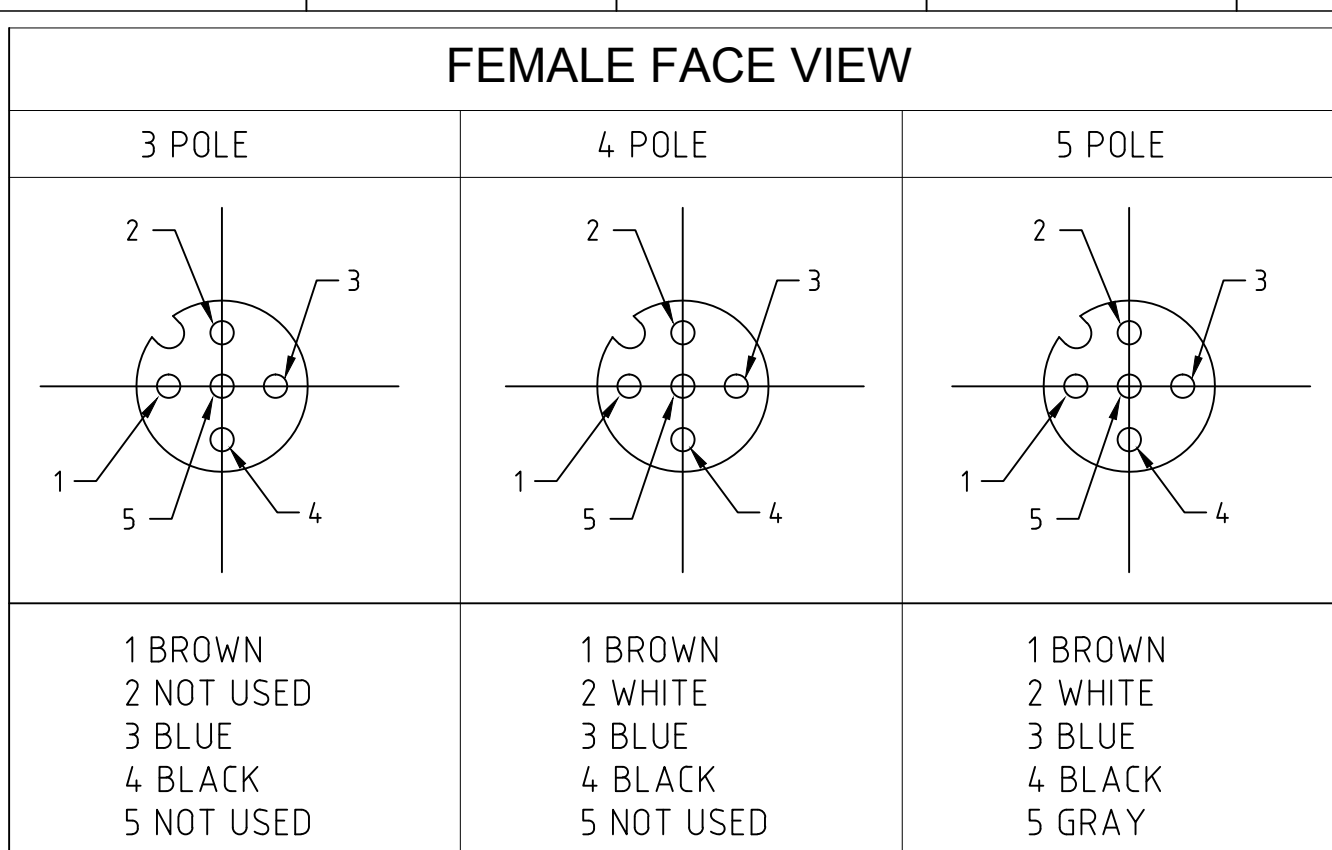
SYMBOLS	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	
	DIMENSION UNITS	SCALE
	= 0	<b>mm</b> 1:1
	GENERAL TOLERANCES (UNLESS SPECIFIED)	
= 0	ANGULAR TOL ± 1.0°	CURRENT REV DESC: DIM PLACEMNT UPDATED
= 0	4 PLACES ±	
= 0	3 PLACES ±	
= 0	2 PLACES ± 0.05	EC NO: 610022 DRWN: SSM 2019/01/07 CHK'D: RSILLER 2019/01/09 APPR: RSILLER 2019/01/09
= 0	1 PLACE ± 0.3	
= 0	0 PLACES ± 0.5	INITIAL REVISION: DRWN: DSOPPIN 2018/09/27 APPR: RSILLER 2018/10/22
= 0	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	THIRD ANGLE PROJECTION 
		DRAWING
		SERIES
		MATERIAL NUMBER
		CUSTOMER
		SHEET NUMBER

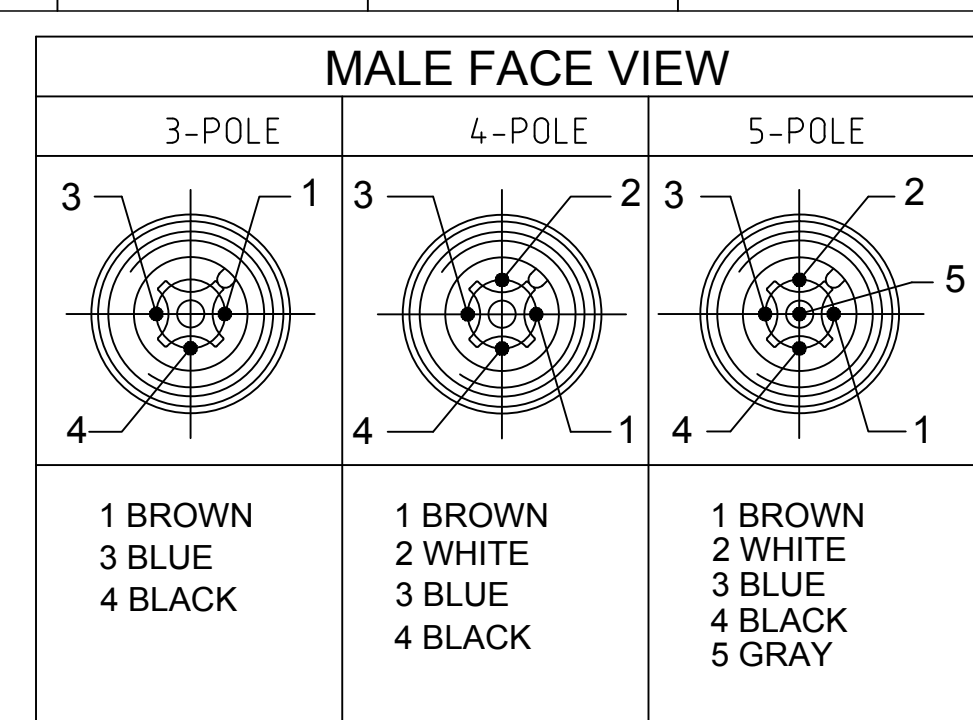
DOCUMENT STATUS	P1	RELEASE DATE	2019/01/09 07:49:11
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<b>molex</b>	
CSE M12 XP AC FE STR MA RA XM	
PRODUCT CUSTOMER DRAWING	
DOCUMENT NUMBER	DOC TYPE   DOC PART   REVISION
1200070026	PSD   000   A1
A3-SIZE	SERIES
120007	SEE PART LIST
GENERAL MARKET	3 OF 3



PART NO.	ENGINEERING NO.	FINISHED LENGTH	POLES	CABLE DIA.
1200660232	883032K05M020	2.0M [6'7"]	3	.20/5.1
1200660404	884032K05M040	4.0M [13'1"]	4	.21/5.3
1200662157	885032K05M100	10.0M [32'10"]	5	.23/5.8

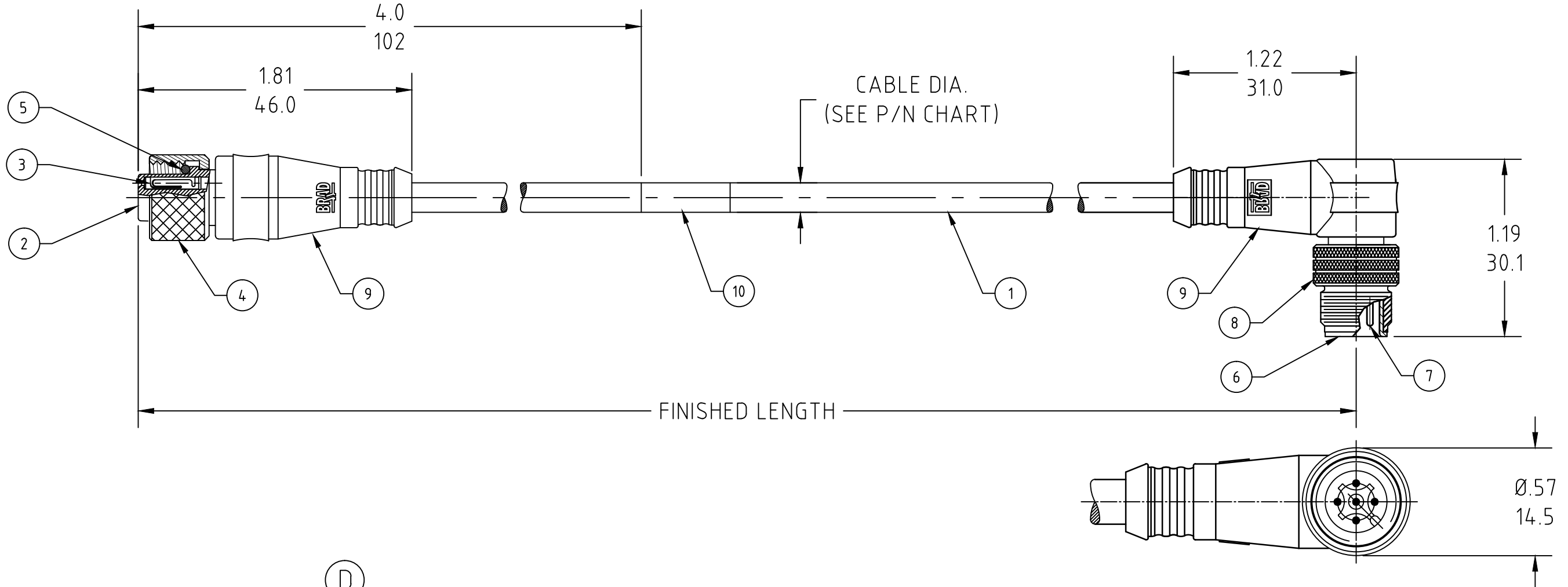


**PART NO. LEGEND**  
**883032K05M020**

POLES: 3, 4 & 5

CABLE TYPE: 22AWG TPE YELLOW

FINISHED LENGTH:  
 M005 = 0.5 Meters  
 M010 = .0 Meter  
 M100 = 10 Meters



- NOTES:**
- MATERIAL: AS NOTED
  - FINISH: AS NOTED
  - ELECTRICAL:  
VOLTAGE: 250V  
CURRENT: 4A
  - TEMP RATING: -25° TO +105°C
  - PROTECTION: IP67 (WHEN MATED)
  - COUPLING THREAD: M12 X 1
  - UL RECOGNIZED FILE: E152210  
CSA CERTIFIED FILE: LR6837
  - ALL DIMS ARE FOR REFERENCE UNLESS NOTED OTHERWISE

#### CABLE FLEX CHARACTERISTICS

TORSIONAL FLEX TEST	10 MILLION CYCLES PER MIL-C-13777G
BEND FLEX TEST	10 MILLION CYCLES PER MIL-C-13777G
WELD SLAG RESISTANCE	WOODHEAD STANDARD S-300

**CABLE LENGTH TOLERANCES**

>.3M [1FT]:	+19mm-0 [+1.75in-0]
.3 - .9M [1 - 3FT]:	+44.5mm-0 [+1.75in-0]
.9 - 1.8M [3 - 6FT]:	+55.6mm-0 [+2.19in-0]
1.8 - 3.7M [6 - 12FT]:	+88.9mm-0 [+3.50in-0]
3.7 - 7.3M [12 - 24FT]:	+165.1mm-0 [+6.50in-0]
7.3-14.6M [24 - 48FT]:	+317.5mm-0 [+12.50in-0]
14.6 - 30.5M [48-100FT]:	+622.3mm-0 [+24.50in-0]
OVER 30M [100FT]:	+2% OF FINISHED LENGTH

ITEM	DESCRIPTION	MATERIAL	FINISH
10	WRAP LABEL	VINYL	BLACK/YELLOW
9	OVERMOLD	TPE	YELLOW
8	COUPLING NUT	BRASS	NICKEL PLATED
7	CONTACT PIN	COPPER ALLOY	GOLD PLATED
6	MALE INSERT	PUR	BLACK
5	O-RING	VITON	RED
4	COUPLING NUT	BRASS	NICKEL PLATED
3	CONTACT SOCKET	COPPER ALLOY	GOLD PLATED
2	FEMALE INSERT	PUR	BLACK
1	CABLE, 22AWG, 300V, 105°	TPE JACKET	YELLOW

UPDATE TO LATEST DOC STD. EC NO: IPG2019-0231 DRWN: RSTONE 11/26/18 CHKD: M ZIELIN APPR: BWOODMAN2010/02/03	<b>QUALITY SYMBOL</b> 	<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> </thead> <tbody> <tr><td>4 PLACES</td><td>±---</td><td>±---</td></tr> <tr><td>3 PLACES</td><td>±---</td><td>±---</td></tr> <tr><td>2 PLACES</td><td>±---</td><td>±---</td></tr> <tr><td>1 PLACE</td><td>±---</td><td>±---</td></tr> </tbody> </table>		mm	INCH	4 PLACES	±---	±---	3 PLACES	±---	±---	2 PLACES	±---	±---	1 PLACE	±---	±---	<b>DIMENSION STYLE</b> IN/MM	SCALE --- DESIGN UNITS INCH	THIRD ANGLE PROJECTION
		mm	INCH																	
	4 PLACES	±---	±---																	
	3 PLACES	±---	±---																	
2 PLACES	±---	±---																		
1 PLACE	±---	±---																		
<b>DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS</b>		DRAWN BY DATE LSTEMMLE 2010/02/01		TITLE <b>MICRO-CHANGE CORDSET            3/4/5 P. FE STR/ MA 90            22/3-5 YELLOW TPE CABLE</b>																
		CHECKED BY DATE REISSNER 2010/02/02																		
<b>SEE P/N CHART</b>		APPROVED BY DATE FPACHER 2010/02/03		<b>MOLEX INCORPORATED</b>																
		MATERIAL NO. <b>SEE P/N CHART</b>		DOCUMENT NO. <b>SD-120066-025</b>																
<b>SIZE C</b>		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																		
SHEET NO. <b>1 OF 1</b>																				



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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